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EXAMINER

NGUYEN, DUSTIN

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 03/04/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary

Application No.

09/523,056

Applicant(s)

LAMBERTON ET AL.

Examiner

Dustin Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-16 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel [US Patent No 6,182,139], in view of Wolff [US Patent No 6,185,601].

4. As per claim 1, Brendel discloses the invention substantially as claimed including a data transmission system operable for transmitting packet data from an Internet Protocol (IP) host over an IP network comprising:

an IP layer [18, Figure 3];

a network layer coupled to the IP network [22, Figure 3], wherein said IP host is coupled to said IP network via a layer 2 network [30, Figure 3; and col 6, lines 13-16]; and

a Multiple Address Resolution Protocol (MARP) layer, said MARP layer between said IP layer and said network layer [20, Figure 3; and col 11, lines 19-26], said MARP layer operable for selecting one router of said set of routers in response to a next hop IP address provided by

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said IP layer to said MARP layer when a packet of data is to be transmitted from said IP host over said IP network [col 11, lines 1-9, lines 19-30].

Brendel does not specifically disclose

said layer 2 network interfacing said IP network with a set of routers.

Wolff discloses

said layer 2 network interfacing said IP network with a set of routers [Figures 1A-C; and col 4, lines 36-50].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Brendel and Wolff because Wolff's teaching would allow data to be transmitted in a load balancing manner with optimized throughput [Wolff, col 2, lines 35-40].

5. As per claim 13, it is rejected for similar reasons as stated above in claim 1. Furthermore, Brendel discloses

a IP host [10, Figure 3];

a Local Area Network (LAN) coupled to the IP host [col 15, lines 25-31];

an IP network coupled to the LAN [66, Figure 1; and 30, Figure 3];

a set of workstations coupled to the LAN via the IP network [col 15, lines 22-31].

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6. Claims 2-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel [US Patent No 6,182,139], in view of Wolff [US Patent No 6,185,601], and further in view of Kshirsagar et al. [US Patent No 6,016,319].

7. As per claim 2, Brendel and Wolff do not specifically disclose IP host is provided with an Address Resolution Protocol (ARP), said ARP operable to convert any IP address into a network address of a router to be used in said layer 2 network by mapping said IP address, in an ARP table into a network address of an active router selected from said set of routers. Kshirsagar discloses IP host is provided with an Address Resolution Protocol (ARP), said ARP operable to convert any IP address into a network address of a router to be used in said layer 2 network by mapping said IP address, in an ARP table into a network address of an active router selected from said set of routers [col 1, lines 46-67]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Brendel, Wolff and Kshirsagar because Kshirsaga's teaching of ARP technique would allow addresses to be mapped between IP address to different network address for transmission, which reduces the burden on user of remembering different network addresses of different communication medium.

8. As per claim 3, Brendel discloses a MARP table mapping said next hop IP address into a list of IP addresses of routers [col 13, lines 50-51], said router addresses indicating routers selectable from said set of candidate routers [col 13, lines 40-46], said IP addresses of said routers being mapped in said ARP table indicating active candidate routers able to be used as

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routers for transmitting said packet of data from said IP host to one or more of said workstations via said IP network [col 10, lines 25-28; and col 12, lines 6-8].

9. As per claim 4, Brendel discloses where in one of said routers is selected amongst said active candidate routers by using hash coding techniques based upon destination IP addresses, a pair of source destination ports in said packet of data to be transmitted, and said active candidate router IP addresses [col 11, lines 24-26; and col 12, lines 1-8].

10. As per claims 5, 6 and 7, they are method claimed of claims 1, 2, 3, they are rejected for similar reasons as stated above in claims 1, 2, 3. Furthermore, Wolff discloses list of active candidate routers determined before selecting from said set of routers [col 3, lines 3-15]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Brendel, Wolff and Kshirsagar because Wolff's teaching of determining step of active routers would allow host to determine path to transmit its requests for better load balancing.

11. As per claim 8, it is method claimed of claim 4, it is rejected for similar reason as stated in claim 4.

12. As per claims 9-12, they are product claimed of claims 5-8, they are rejected for similar reasons as stated above in claims 5-8.

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13. As per claims 14-16, they are rejected for similar reasons as stated above in claim 2-4.

Response to Arguments

14. Applicant's arguments filed 12/22/2003 have been fully considered but they are not persuasive.

15. As per remarks, Applicants' argued that (1) nowhere in Brendel is the term MARP used nor does Brendel teach a layer with the functionality of the MARP layer.

16. As to point (1), Applicants disclose the MARP layer is between the IP layer and the network layer [not shown in specification, page 8, line 17] and the MARP layer is used to determine the best physical router [specification, page 9, lines 5-8]. Brendel discloses the client-side dispatcher between the IP layer and the network layer [i.e. data link layer, 22, Figure 3] and the clients-side dispatcher is used to find the best server to handle the request [col 11, lines 2-12].

17. As per remarks, Applicants' argued that (2) if Brendel does not teach or suggest that the IP host is coupled to said IP network via a layer 2 network, the layer 2 network interfacing the IP network with a set of routers then Brendel cannot teach or suggest a MARP layer.

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18. As to point (2), the Office Action mailed 09/29/2003 stated that Brendel does not specifically disclose said layer 2 network interfacing said IP network with a set of routers. Wolff discloses said layer 2 network interfacing said IP network with a set of routers [Figures 1A-C; and col 4, lines 36-50]. Firstly, Brendel discloses a set of router but does not specifically shown in Figure 1 [col 2, lines 14-17]. The clients of Wolff can include a set of routers as mentioned in Wolff reference [col 4, lines 36-50]. Also, Wolff discloses the Ethernet network [col 5, lines 17-23].

19. As per remarks, Applicants' argued that (3) element 10 in Figure 3 of Brendel is a client and not an IP host.

20. As to point (3), Examiner disagrees because the set of protocols suite 28 of Applicants' invention is implemented on IP host 10 [specification, page 7, lines 23-page 8, lines 2], so in regarding to Brendel reference, the set of IP layers is implemented on the client 10 [col 5, lines 55-64].

21. As per remarks, Applicants' argued that (4) Brendel does not teach or suggest of IP addresses of the routers being mapped in the ARP table as recited in claim 3.

22. As to point (4), the claimed limitation is rejected as mentioned above. Furthermore, Brendel discloses the address translation table [col 6, lines 40-57].

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23. As per remarks, Applicants' argued that (5) there is no mention of selecting amongst active candidate routers using a hash coding techniques.

24. As to point (5), the claimed limitation is rejected for the reasons as stated above.

25. As per remarks, Applicants' argued that (6) Wolff fails to teach the step of determining a list of candidate routers from said set of routers.

26. As to point (6), Wolff discloses the determining steps of redirecting requests for at least one resource to a second server node among the plurality of the server nodes [col 2, lines 52-62].

27. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination of Brendel, Wolff and Kshirsagar would have been obvious because it would allow to balance the workload in the communication network to reduce network congestion.

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28. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (703) 305-5321. The examiner can normally be reached on Monday – Friday (8:00 – 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 306-8498.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directly to the receptionist whose telephone number is (703) 305-3900.

Dustin Nguyen


JOHN FOLLANSBEE
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TECHNOLOGY CENTER 2100